



# TECHNICAL TEXTILES

## **PROF. APURBA DAS**

Department of Textile Technology  
IIT Delhi

**PRE-REQUISITES :** Suitable of 4th Year UG Textile or PG Textile; Basic textile courses

**INTENDED AUDIENCE :** UG and PG Students of Textile, Clothing and fashion technology, Material science etc.

### **COURSE OUTLINE :**

Technical textiles are defined as textile materials and products used primarily for their technical performance and functional properties rather than their aesthetic or decorative characteristics. This course targets the specific areas of technical textiles depending on the product characteristics, functional requirements and end-use applications. The learner at the end of the course will be able to appreciate the vast scope of technical textiles in various sectors of geotextiles, sports textiles, protective wear, textile reinforced composites, filter fabric, compression bandage, automotive textiles, UV protective textiles and nonwoven hygiene textiles.

### **ABOUT INSTRUCTOR :**

Prof. Apurba Das is Professor in the Department of Textile Technology, Indian Institute of Technology, Delhi. He has completed his Ph. D. from the same department in the year 1994. He has joined Indian Institute of Technology, Delhi in 2002 as a faculty after serving in the textile industries and in research organization for about 11 years. He has guided many Ph.D., M. Tech., B. Tech. students and presently guiding several Ph.D., M. Tech. and B. Tech. students. He has published more than 260 research papers in journals and conferences, authored and edited 05 books and written chapters in 18 books. He has successfully completed many research and consultancy projects from industries and government funding agencies. He has filed several patent applications. He has developed several instruments for characterization of textile materials. His main areas of teaching and research interest are clothing comfort, sports textiles, nonwovens and technical textiles, filter fabrics, geotextiles, medical bandage, textile composites, and instrumentation. He has international research collaborations with universities from different countries like, Germany, Poland, Hungary, Slovenia, Italy, Portugal, China, South Korea, Australia, UK, Hong Kong, Croatia etc.

### **COURSE PLAN :**

**Week 1:** Introduction to Technical Textiles

**Week 2:** Textile reinforced composites

**Week 3:** Textile reinforced composites contd.

**Week 4:** Textile reinforced composites contd.

**Week 5:** Filter Fabrics

**Week 6:** Geotextiles

**Week 7:** Extreme cold and heat protective clothing

**Week 8:** Extreme cold and heat protective clothing contd.

**Week 9:** Sports Textiles; UV Protective Textiles

**Week 10:** Ballistic Protective Textiles

**Week 11:** Compression bandages

**Week 12:** Automotive Textiles; Nonwoven Hygiene Product